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| 10/709,608 | 05/18/2004 | Chia-Chun Lin | 12191-US-PA | 3607 |

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TAIPEI, 100
TAIWAN

| EXAMINER |
|---|
| HAILU, KIBROM T |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2616 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

PTOL-90A (Rev. 04/07)

| | **Application No.** | **Applicant(s)** |
|---|---|---|
| **Office Action Summary** | 10/709,608 | LIN, CHIA-CHUN |
| | **Examiner** | **Art Unit** |
| | Kibrom T. Hailu | 2616 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>06 September 2007</u>.

2a)☒ This action is **FINAL**.      2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>18 May 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

| | |
|---|---|
| 1)☐ Notice of References Cited (PTO-892) | 4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ . |
| 2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5)☐ Notice of Informal Patent Application |
| 3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ . | 6)☐ Other: _____ . |

## DETAILED ACTION

1.      Note that the Applicants supposed to underline each and every of the amended

limitations and/or phrases.

### *Response to Arguments*

2.      Applicant's arguments filed September 06, 2007 have been fully considered but

they are not persuasive. Because the cited references disclose the rejected claims as set

forth in the previous Office Action. Therefore, the finality of this Office Action is

deemed proper.

Contrary to the Applicants argument on page 9-11 of the Remarks, claims 1-18

are not patentable.

**Regarding claims 1, 6, 13 and 17**, on page 9 of the Remarks, the Applicants

argue that Chan (US 2002/0018452 A1) doesn't disclose part of the amended limitations

"...the transmitting end arbiter 311 incorporated by the transmitting end 310 'is coupled

to the transmitting end transceivers 312, 313, 314 and 315 so that the ongoing data block

is divided into data segments and are transmitted through the data transmission

channels...' Likewise, in paragraph [0034], the receiving end arbiter 321 incorporated by

the receiving end 'is coupled to the receiving end transceivers 322, 323, 324 and 325 to

receive the data segments through the data transmission channels...'"

The Examiner respectfully disagrees with the Applicants assertion that the Cha

reference does not disclose the claimed limitations. Contrary to the Applicants argument,

Chan discloses File Divider 11, included in transmitter 10 and coupled to the data

transmitters $1_1$-$1_N$ through the data converters, divides the file data to be transmitted

through the channels CH 1-CH N (Fig. 3, 9-11; paragraph [0019], lines 3-5; [0020], lines

4-6; [0039], lines 4-6). Likewise the File Synthesizer 19, included in receiver 20 and coupled to the data receivers $1_1$-$1_N$ through data converters, restores or assembles the divided data segments via the CH 1-CH N (Fig. 3, 9-11; paragraph [0044], lines 4-7).

Therefore, Cha explicitly discloses all of the limitations of the independent claims including the limitations, which the Applicants argue.

**Regarding the Applicants second argument (claim 7),** "Cha in view of Brown ... does not disclose the size and the quality of the data segments to be transmitted are determined through one of said data transmission channels."

The Examiner respectfully submits that the combination of Cha and Brown perfectly discloses the claimed limitation. Cha doesn't fail to disclose the size and quantity of the data segments. Cha explicitly discloses the size and quantity of the data segments (please read paragraph [0021], lines 4-5; [0076]-[0080], explains the size and sequence number of the data or file segments. In fact, you can see this in all the figures, figs. 8 through 11). The Examiner simply combined the Brown reference with Cha for its teaching of negotiation about the size of the data segments before transmission (see Fig. 2; paragraph [0037]; [0040]). Otherwise, as shown above and claim 2 in the previous Office Action, Cha already explicitly discloses the size and quantity of the data segments. Remember, the size and quantity of the data transmitted is obvious and well known. A transmitter and receiver cannot communicate with each other without knowing the sequence numbers of the segments and/or the size and quantity. In fact, the packet or data size information is assumed to be indicated in each of headers of the packets. Then, the receiver assembles the segments of the packet based on the sequence numbers or sizes of the data. And Cha is just doing that.

Therefore, the combination of Cha and Brown discloses the claimed limitation.

### *Claim Rejections - 35 USC § 102*

3.        The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.        Claims 1-6, 8-10, 13, and 15-17 are rejected under 35 U.S.C. 102(b) as being

anticipated by Cha (US Pub. 2002/0018452 A1).

**Regarding claim 1**, Cha discloses A method for transmitting data through a

multi-path bus in a transmission system having a plurality of dam transmission channels

(abstract), comprising: a data block being divided into a plurality of data segments and

being transmitted via said data transmission channels by a transmitting end of said

transmission system, wherein the transmitting end comprises a transmitting end arbitor

coupled to a plurality of transmitting end transceivers (paragraph [0019], lines 3-5;

[0020], lines 4-6; [0039], lines 4-6, illustrating File Divider 11, included in transmitter 10

and coupled to the data transmitters $1_1$-$1_N$ through the data converters, divides the file

data to be transmitted through the channels CH 1-CH N); and

aid data segments being received and assembled to said data block at a receiving

end of said transmission system through said data transmission channels (Fig. 3;

paragraphs [0019], lines 10-17; [0020], lines 8-12; [0040]; [0044]; claim 1, lines 12-20;

claim 5, lines 10-14), wherein the receiving end comprises a receiving end arbiter

coupled to a plurality of receiving end transceivers (Fig. 3, 9-11; paragraph [0044], lines

4-7).

**Regarding claim 2**, Cha further discloses a size and a quantity of said data

segments being determined upon communication between said transmitting end and said

receiving end through said data transmission channels (Fig. 9, 10 and 11; paragraph

[0021]; [0019], lines 3-5; [0020], lines 4-6; [0039], lines 1-6; [0076]-[0080], illustrate the

file structure portion of each of the files or data segments comprises the size and quantity

of each of the data segments and transmit them in the available channels).

**Regarding claim 3**, Cha further discloses comprising statuses of said data

transmission channels and said data segments being maintained by said transmitting end

of said transmission system, and one of said data transmission channels being determined

to transmit said data segments based on statuses of said data transmission channels and

statuses of said data segments (paragraph [0043], lines 1-3; [0039], lines 1-3; [0020],

lines 4-6; [0019], lines 3-5; explain the file divider divides the block of data, such as file

A, into a number of available channels. That is, the data block is divided into data

segments depending on the available channels. Thus, the transmission of the data doesn't

stop because of the unavailability of one or more of the channels. The divider segments

the data block according to the availability or status of the channel).

**Regarding claim 4**, Cha further discloses comprising said data segment that is

under transmission being simultaneously transmitted via at least one of said data

transmitting channels that is idling when none of said data segments being to-be-

transmitted (Fig. 3, 10 and 11, illustrate the simultaneous transmission).

**Regarding claim 5**, Cha discloses said data segments are numbered by said

transmitting end (Fig. 9; paragraph [0082]-[0085]) and are assembled to said data bock

thereby said receiving end (Fig. 10 and 11; paragraph [0044], lines 4-7, illustrates the File

Synthesizer 19 synthesizes recombines the data segments or the files that are divided at the transmitter 10 into the original data block or File A).

**Regarding claim 6**, Cha discloses a system for transmitting data through a multi-path bus (CH 1-CH N) in a transmission system (see Fig. 3; paragraph [0019], lines 1-3), comprising a plurality of transmitting end transceivers (Fig, 3, Data Transmitters 1-1N); a plurality of receiving end transceivers (Data Receivers 1-1N), coupling to said plurality of transmitting end transceivers via a plurality of data transmission channels (CH 1-CH N) (see Fig. 3; paragraph [0038]-[0040]); a transmitting end arbiter (File Divider 11), coupling to said transmitting end transceivers for dividing a data block into a plurality of data segments for transmission through said data transmission channels (Fig. 9; paragraph [0019], lines 3-5; [0020], lines 4-6; [0039], lines 4-6); and a receiving end arbiter (File Synthesizer 19), coupling to said receiving end transceivers for receiving said data segments through said data transmission channels and assembling said data segments to said data block (Fig. 10 and 11; paragraph [0044], lines 4-7, illustrates the File Synthesizer 19 synthesizes recombines the data segments or the files that are divided at the transmitter 10 into the original data block or File A).

**Regarding claim 8**, which inherits the limitation of claim 6, the claimed system including the features corresponding to subject matter mentioned above in the rejection claim 3 is applicable hereto.

**Regarding claim 9**, which inherits the limitation of claim 8, the claimed system including the features corresponding to subject matter mentioned above in the rejection claims 3 and 4 is applicable hereto.

**Regarding claim 10**, which inherits the limitation of claim 6, the claimed system including the features corresponding to subject matter mentioned above in the rejection claim 5 is applicable hereto.

**Regarding claim 13**, Cha discloses a transmitting end (10) for a multi-path bus (CH 1-CH N) data transmission (Fig. 3), comprising: a plurality of transmitting end transceivers (Fig, 3, Data Transmitters 1-1N), providing a plurality of data transmission channels (CH 1-CH N) (see Fig. 3; and a transmitting end arbiter (File Divider 11), coupling to said plurality of transmitting end transceivers, for dividing a data block into a plurality of data segments for transmission through said data transmission channels (Fig. 10 and 11; paragraph [0044], lines 4-7, illustrates the File Synthesizer 19 synthesizes recombines the data segments or the files that are divided at the transmitter 10 into the original data block or File A).

**Regarding claim 15**, which inherits the limitation of claim 13, the claimed system including the features corresponding to subject matter mentioned above in the rejection claim 3 is applicable hereto.

**Regarding claim 16**, which inherits the limitation of claim 13, the claimed system including the features corresponding to subject matter mentioned above in the rejection claims 3 and 4 is applicable hereto.

**Regarding claim 17**, Cha discloses a receiving end (20) for receiving a data block having a plurality of data segments (see Fig. 10 and 11, Files or data segments B to E of File or data block A) through a plurality of data transmission channels (Fig. 3, 10 and 11, CH 1-CH N), comprising: a plurality of receiving end transceivers (Data Receivers 1-1N), providing said data transmission channels (CH 1-CH N) (Fig. 3, 10 and

11); and a receiving end arbiter (File Divider 11), coupling to said receiving end

transceivers, for receiving said data segments through said data transmission channels

and assembling said data segments to said data block (Fig. 10 and 11; paragraph [0044],

lines 4-7, illustrates the File Synthesizer 19 synthesizes recombines the data segments or

the files that are divided at the transmitter 10 into the original data block or File A).

### Claim Rejections - 35 USC § 103

5.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.      The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.      Determining the scope and contents of the prior art.
2.      Ascertaining the differences between the prior art and the claims at issue.
3.      Resolving the level of ordinary skill in the pertinent art.
4.      Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

7.      Claims 7, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Cha in view of Brown et al. (US Pub. 2003/0103515 A1).

**Regarding claim 7,** Cha discloses a size and a quantity of said data segments are

determined upon communication between said transmitting end arbitor and said receiving

end arbitor through one of said data transmission channels upon or during transmission

said data block is transmitted (Fig. 9, 10 and 11; paragraph [0021]; [0019], lines 3-5;

[0020], lines 4-6; [0039], lines 1-6; [0076]-[0080], illustrate the file structure portion of

each of the files or data segments comprises the size and quantity of each of the data segments and transmit them in the available channels).

Cha doesn't disclose the size and quantity of the data segments is determined before transmission.

Brown teaches determining the size and quantity of the data segments by negotiating between a transmitter and receiver before the generation process of the segments is performed by the processor 110 for transmission (paragraph [0040]).

Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to determine the size and quantity of the data segments as taught by Brown and use that into the multi-channel communication system of Cha so that time-sensitive information is transmitted smoothly, without change to existing data protocols. This also reduces time delay.

**Regarding claim 14**, which inherits the limitation of claim 13, the claimed system including the features corresponding to subject matter mentioned above in the rejection claim 7 is applicable hereto.

**Regarding claim 18**, which inherits the limitation of claim 17, the claimed system including the features corresponding to subject matter mentioned above in the rejection claim 7 is applicable hereto. It is clear that negotiation between the transmitter and the receiver for the size and quantity of the data segments before transmission, even before their process of generation by the processor, is just process of requesting and responding. It is also clear and obvious that the agreed result of negotiation for the size and quantity of the data segments is valid.

8.      Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cha in view of Cox et al. (US 7,187,863 B2).

Regarding claim 11, as applied above, Cha discloses data transmission channels. However, Cha doesn't disclose the data transmission channels are optical fiber channels.

Cox teaches the data transmission channels are optical fiber channels (Fig. 1 and 2; col. 4, lines 31-38, 54-59; col. 8, lines 26-32, 38-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use plurality of fiber optical channels taught by Cox into the multi-channel communication system of Cha so that the multiple data substreams would be transmitted through the plurality of the fiber optical channels in higher speed.

9.      Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cha in view of Martin et al. (US 6,021,129).

Regarding claim 12, as applied above, Cha discloses data transmission channels. However, Cha doesn't disclose the data transmission channels are universal serial bus channels.

Martin teaches the data transmission channels are universal serial bus channels (col. 6, lines 53-61; col. 7, line 63-col. 8, line 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Martin's various universal serial bus (USB) channels into the multi-channel communication system of Cha in order to avoid latency.

*Conclusion*

10.     THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

11.    Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kibrom T. Hailu whose telephone number is (571)270-

1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kth

09/28/07

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER